Grade 3—PBA

This blueprint is extends Table D.3 in the ITN,[1] providing more specificity as well as a further iteration of draft design elements covered in the ITN.

Part 1a. Part 1a consists of eight (8) tasks, each worth 1 point (these are tasks of Type I.1[2]), totaling 8 points in all.

Table 3-PBA(1a) lists evidence statements for Part 1a. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.

Table 3-PBA(1a). Evidence Statements for Grade 3 PBA Part 1a

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	3/8	1	3.OA.3-1	Use multiplication within 100 (both factors less than or equal to 10) to solve word problems in situations involving equal groups, arrays, or area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All products come from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) 50% of tasks involve multiplying to find the total number (equal groups, arrays); 50% involve multiplying to find the area. iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.
	1/8	1	3.OA.3-2	Use multiplication within 100 (both factors less than or equal to 10) to solve word problems in situations involving measurement quantities other than area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All products come from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) Tasks involve multiplying to find a total measure (other than area). iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.
	3/8	1	3.OA.3-3	Use division within 100 (quotients related to products having both factors less than or equal to 10) to solve word problems in situations involving equal groups, arrays, or area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All quotients are related to products from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) A third of tasks involve dividing to find the number in each equal group or in each equal row/column of an array; a third of tasks involve dividing to find the number of equal groups or the number of equal rows/columns of an array; a third of tasks involve dividing an area by a side length to find an unknown side length. iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4 .	Represent and solve problems involving multiplication and division.
	1/8	1	3.OA.3-4	Use division within 100 (quotients related to products having both factors less than or equal to 10) to solve word problems in situations involving measurement quantities other than area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All quotients are related to products from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) 50% of tasks involve finding the number of equal pieces; 50% involve finding the measure of each piece. iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.

[1] See Table D.3, "Grade 3, Performance Based Assessment Blueprint – Preliminary Draft – Operational portion (equating and field testing items not yet included)," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[2] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[3] This is the number of task(s) that will appear on a form to generate evidence for the indicated evidence statement (or the indicated set of evidence statements).

[5] **1** = Sub-Claim A but not Sub-Claims C or E. **2** = Sub-Claims A and C. **3** = Sub-Claims A and E. **4** = Sub-Claim D. **5** = Sub-Claim B. (If more than one code is listed, points are divided evenly among listed codes, with any remainder coded to **1**.) See the Grade Summary for totals by claim code.
[6] Practices listed in the top half of the cell indicate that tasks are *ipso facto* Practice-forward for that practice; practices listed in the bottom half are potentially Practice-forward for that practice, depending on the task. See also Appendix F (Revised), "Illustrations of Innovative Task Characteristics," particularly section F(A)(2), "Practice-Forward Tasks," and especially Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," particularly section IV, "Operationalizing Assessment of the Mathematical Practices," and section V, "Practice-forward tasks," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	3	3.OA.7-1[7]	Fluently multiply and divide within 25, using strategies such as the relationship between multiplication and division (e.g., knowing that 4 × 4 = 16, one knows that 16 ÷ 4 = 4) or properties of operations. By end of grade 3, know from memory all products of two one-digit numbers.	i) Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here). iii) Tasks require fluent (fast and accurate) finding of products and related quotients. For example, each 1-point task might require four or more computations, two or more multiplication and two or more division. However, tasks are not explicitly timed.	-	Understand properties of multiplication and the relationship between multiplication and division.
1	-	1	3.NF.1	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.	i) Tasks do not involve the number line.	MP.2.[8]	Develop understanding of fractions as numbers.
	1/4	1	3.OA.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	i) Tasks involve interpreting products in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, p. 89.) ii) Tasks do not require students to interpret products in terms of repeated addition, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a context. But describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a total can be expressed as a specified product.	MP.4 and MP.2.	Represent and solve problems involving multiplication and division.
1	1/4	1	3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*	i) Tasks involve interpreting quotients in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, p. 89.) ii) Tasks do not require students to interpret quotients in terms of repeated subtraction, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a context. But describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a number of objects can be expressed as a specified quotient. iv) 50% of tasks require interpreting quotients as a number of objects in each share. 50% of tasks require interpreting quotients as a number of equal shares.	MP.4 and MP.2.	Represent and solve problems involving multiplication and division.
	1/4	1	3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*	i) Tasks do not have a context. ii) Only the answer is required (methods, representations, etc. are not assessed here). iii) All products and related quotients are from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$).	-	Represent and solve problems involving multiplication and division.
	1/4	1	3.OA.6	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	i) All products and related quotients are from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$).	-	Understand properties of multiplication and the relationship between multiplication and division.
	1/5	1	3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as	i) Fractions are not limited to values between 0 and 1. ii) Fractions equal whole numbers in 20% of these tasks. iii) Tasks have "thin context"[9] or no context. .	MP.5.[10]	Develop understanding of fractions as numbers.

[7] Fluency expectation (Sub-Claim E)

[8] The account of MP.2 in the ITN is very incomplete. It needs a new domain opened up, namely that which involves the mapping of abstract symbols such as "x" or "3/8" or "-11+8" or "2" onto more-or-less-real quantities such as "the unknown side" (late elementary) or "this much liquid" (elementary) or "net profit" (late middle) or "this many apples" (primary).

[9] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For an example of thin context, see the "Animal Populations" problem on the Illustrative Mathematics website. Thin context is not the same thing as phony context, which one often sees on standardized tests. An example of phony context: "There are 2358 birds in the park. What is the value of the 5 in 2358?" This context is phony because birds and parks play no part in the mental processes of the person answering the question. Thin context is thinner than the context provided in a word problem

[10] Omission of the number line as a tool is a major oversight in MCF, ITN, and math design documents. (Note that the coordinate *plane* is mentioned, which is a pair of perpendicular number lines; but a single number line is all students have in earlier grades.)

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
				the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	iv) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote CCSSM, p 24)		
1	1/5	1	3.NF.3a-1	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size.	i) Tasks do not involve the number line. ii) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) iii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see PBA(2).	MP.5	Develop understanding of fractions as numbers.
1	1/5	1	3.NF.3a-2	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same point on a number line.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see PBA(2).	MP.5	Develop understanding of fractions as numbers.
1	1/5	1	3.NF.3b1	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size b. Recognize and generate simple equivalent fractions (e.g., 1/2 = 2/4, 4/6 = 2/3).	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see PBA(2).	MP.7	Develop understanding of fractions as numbers.
1	1/5	1	3.NF.3c	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see PBA(2).	-	Develop understanding of fractions as numbers.
1	1/6	1	3.MD.1-1	Tell and write time to the nearest minute and measure time intervals in minutes.	-	-	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	1/6	1	3.MD.1-2	Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	i) Only the answer is required (methods, representations, etc. are not assessed here).	MP.1, MP.4 and MP.2. MP.5	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	1/6	1	3.MD.2-1	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).6	-	-	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	1/6	1	3.MD.2-2	Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.7	i) Only the answer is required (methods, representations, etc. are not assessed here).	MP.1, MP.4 and MP.2. MP.5	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	1/6	1	3.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	-	MP.7	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

No. Tasks[3]	Probability[4]	Claim Code[5]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[6]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
	1/6	1	3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).		MP.7	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
1	-	3	2.OA.2[11]	Fluently add and subtract within 20 using mental strategies.[12] By end of grade 2, know from memory all sums of two one-digit numbers.	i) Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here). iii) Tasks require fluent (fast and accurate) sums (with each addend less than or equal to 10) and related differences, and/or knowing single-digit sums from memory. For example, each 1-point task might require four or more computations, two or more addition and two or more subtraction.	-	Add and subtract within 20.
1	-	1	2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: (a) 100 can be thought of as a bundle of ten tens—called a "hundred." (b) The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	i) Tasks have "thin context" or no context. ii) The prompt and the response are formulated in terms of numbers and words. Pictures of base-ten blocks or other manipulatives are neither provided in the prompt nor involved in the response. iii) Tasks are computationally non-intensive and do not verge into place-value computations (cluster 2.NBT.B). However, tasks will usually touch on issues of bundling and unbundling of base-ten units.[13]	MP.7 and MP.2.	Understand place value.

[11] Fluency expectation (Sub-Claim E)
[12] See standard 1.OA.6 for a list of mental strategies
[13] See for example the problems at http://www.achievethecore.org/downloads/Thinking%20About%20Place%20Value%20in%20Grade%20Two.pdf

Part 1b. Part 1b consists of two (2) tasks worth two (2) points, totaling 4 points in all.

Table 3-PBA(1b) lists evidence statements for Part 1b. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.

Table 3-PBA(1b). Evidence Statements for Grade 3 PBA Part 1b

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	1/2	1	2.OA.1-1	Use addition and subtraction within 100 to solve one- step word problems involving situations of adding to with start unknown, taking from with start unknown, comparing with the larger quantity unknown and harder "fewer"-type phrasing, and comparing with the smaller quantity unknown and harder "more"-type phrasing, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (footnote: See Glossary, Table 1)	i) The situation types are those that are unshaded in Table 2, p. 9 of the *Progression* for Operations and Algebraic Thinking.[15]	MP.1 and MP.4	Represent and solve problems involving addition and subtraction
	1/2	1	2.OA.1-2	Use addition and subtraction within 100 to solve two-step word problems involving situations of adding to with result or change unknown, taking from with result or change unknown , putting together/taking apart, comparing with difference unknown, comparing with the larger quantity unknown and easier "more"-type phrasing, and comparing with the smaller quantity unknown and easier "fewer"-type phrasing, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (footnote: See Glossary, Table 1)	i) These problems combine the dark- or medium-shaded types in Table 2, p. 9 of the *Progression* for Operations and Algebraic Thinking.[16]	MP.1 and MP.4	Represent and solve problems involving addition and subtraction
1	1	1	3.OA.8-1	Solve two-step word problems using the four operations.	i) Only the answer is required (methods, representations, etc. are not assessed here). ii) For the aspects of 3.OA.8 described in note *i* see Grade 3 PBA part 2. iii) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, p. 88; CCSSM, Table 2, p. 89; and the Progression document for Operations and Algebraic Thinking[17]).	MP.1 and MP.4	Solve problems involving the four operations, and identify and explain patterns in arithmetic

[15] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[16] While Table 2 in the *Progression* for Operations and Algebraic Thinking is phrased in terms appropriate for whole numbers, changes of phrasing are generally necessary in fraction contexts (e.g., "Mike's recipe has 1/8 cup sugar. Joe's recipe has 5/8 cup sugar. How much more sugar does Joe's recipe have?") The point of referencing Table 2 is to reference the quantitative relationships it describes, not the exact wording of its examples.
[17] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

Part 2.

Sub Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning. The student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.

The formulation *"Use drawings, words, and/or equations"* can be useful in tasks generating evidence for Claim C (expressing mathematical reasoning).

Assessing students' expressions of mathematical reasoning typically requires some hand scoring of tasks. However, PARCC is interested in possible technological innovations that can allow tasks assessing this aspect of the standards to be machine scored or partially machine scored. PARCC is also interested in transformative technological innovations that can enrich the range of activities beyond what is possible with a paper test (e.g., assembling shapes to prove or disprove a conjecture).

Part 2 consists of four (4) tasks: two (2) three-point tasks and two (2) four-point tasks, totaling 14 points in all.

Table 3-PBA(2) lists evidence statements for Part 2. Tasks for this part satisfy the following constraints:

- Each task on Part 2 generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content and process domain is specified by the Form Construction Tables.
- Evidence Statements within a given content or process domain are equally likely to be assessed.
- For Evidence Statements with more than one standard listed within the Content Scope, contractors may select one or more while keeping a balanced pool.

Table 3-PBA(2).[20] Evidence Statements for Grade 3 PBA Part 2

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	3.C.1-1	Base explanations/reasoning on the properties of operations.[21] Content Scope: Knowledge and skills articulated in 3.OA.5	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Products and related quotients are limited to the 10x10 multiplication table.	MP.3, MP.7, and MP.6	Understand properties of multiplication and the relationship between multiplication and division
2	3.C.1-2	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 3.OA.9	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*.	MP.3, MP.7, MP.8 and MP.6	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
2	3.C.1-3	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 3.MD.7	i) Pool should contain tasks with and without contexts. ii) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*.	MP.3, MP.7., MP.6 and MP.5.	Geometric measurement:: understand concepts of area and relate area to multiplication and addition.
2	3.C.2	Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.[22] Content Scope: Knowledge and skills articulated in 3.OA.6	i) Products and related quotients are limited to the 10x10 multiplication table.	MP.3, MP.7 and MP.6	Understand properties of multiplication and the relationship between multiplication and division
2	3.C.3-1	Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method.	i) Tasks may present realistic or quasi-realistic images of a contextual situation (e.g., a drawing of a partially filled graduated cylinder). However, tasks do not provide the sort of abstract drawings that help the student to represent the situation mathematically (e.g., a number line diagram or other visual fraction model).	MP.3, MP.5. and MP.6.	Develop understanding of fractions as numbers.

[20] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.

[21] Properties of operations are a recurring theme throughout the standards to foster coherence and build a bridge from arithmetic to algebra. "These Standards endeavor to follow [a coherent] design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas." (CCSSM, p. 4)

[22] The relationships between operations are a recurring theme throughout the arithmetic progressions in the standards (see 1.OA.4, 1.NBT.4, 1.NBT.6, 2.NBT.5, 2.NBT.7, 3.NBT.2, 3.OA.6, 4.NBT.5, 4.NBT.6, 4.NF.3c, 5.NBT.6, 5.NBT.7, 5.NF.3 (italics), 5.NF.7a (italics), 5.NF.7b (italics), 6.NS.1 (italics), 7.NS.1, 7.NS.2. This list does not include the way that the relationships between operations factor into work with word problems in the OA progression.

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
		Content Scope: Knowledge and skills articulated in 3.NF.3b, 3.NF.3d	ii) Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8. *(Footnote in CCSSM, p. 24)* iii) For fractions equal to a whole number, values are limited to 0, 1, 2, 3, 4, and 5.		
2	3.C.3-2	Base explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 3.MD.5, 3.MD.6, 3.MD.7	i) Pool should contain tasks with and without contexts. ii) Tasks with a context may present realistic or quasi-realistic images of a contextual situation (e.g., a drawing of a meadow). However, tasks do not provide the sort of abstract drawings that help the student to represent the situation mathematically (e.g., a tiling of the meadow).	MP.3, MP.5. and MP.6.	Geometric measurement:: understand concepts of area and relate area to multiplication and addition.
2	3.C.4-1	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning.[23] (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.5	i) Students need not use technical terms such as *commutative*, *associative*, *distributive*, or *property*. ii) Products and related quotients are limited to the 10x10 multiplication table.	MP.3, MP.7. and MP.6.	Understand properties of multiplication and the relationship between multiplication and division
2	3.C.4-2	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.6	i) Products and related quotients are limited to the 10x10 multiplication table.	MP.3. and MP.6.	Understand properties of multiplication and the relationship between multiplication and division
2	3.C.4-3	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.8.	i) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, p. 88; CCSSM, Table 2, p. 89; and the *Progression* document for Operations and Algebraic Thinking[24]).	MP.3, MP.5. and MP.6.	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
2	3.C.4-4	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.NF.3b, 3.NF.3d	i) Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8. *(Footnote in CCSSM, p. 24)* ii) For fractions equal to a whole number, values are limited to 0, 1, 2, 3, 4, and 5.	MP.3. and MP.6. MP.5, MP.3 and MP.6.	Develop understanding of fractions as numbers.
2	3.C.4-5	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.MD.7	i) Pool should contain tasks with and without contexts.	MP.3 and MP.6. MP.5, MP.3, and MP.6.	Geometric measurement:: understand concepts of area and relate area to multiplication and addition.
2	3.C.4-6	Distinguish correct explanation/reasoning from that which is flawed, and – if there is a flaw in the argument – present corrected reasoning. (For example, some flawed 'student' reasoning is presented and the task is to correct and improve it.) Content Scope: Knowledge and skills articulated in 3.OA.9	-	MP.3, MP.8. and MP.6.	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
2	3.C.5-1	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 3.OA.8	i) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, p. 88; CCSSM, Table 2, p. 89; and the *Progression* document for Operations and Algebraic Thinking[25]).	MP.3 and MP.6. MP.2, MP.3, MP.5 and MP.6	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
2	3.C.5-2	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer	i) Pool should contain tasks with and without contexts.	MP.3 and MP.6.	Geometric measurement:: understand concepts of area and relate area to multiplication

[23] This is a modification of the draft evidence statement in the ITN. The highlighted words used to say, "explain what it is." This was modified because (i) explaining the flaw in a piece of reasoning is much more difficult than simply presenting a correction of the flawed reasoning; one must not only find the right reasoning, but also articulate just why the flawed reasoning is flawed. That is very difficult even for adults. (ii) Because it is difficult for adults to do, it is also difficult for adults to assess. Rubrics for evaluating explanations of flawed reasoning would be difficult to construct, and the typical grader wouldn't reliably award credit.
[24] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[25] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
		is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 3.MD.7b, 3.MD.7d		*MP.2, MP.3, MP.5 and MP.6*	and addition.
2	3.C.6-1	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content scope: Knowledge and skills articulated in 3.NF.2		MP.5, MP.3, and MP.6.	Develop understanding of fractions as numbers.
2	3.C.6-2	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response) Content scope: Knowledge and skills articulated in 3.MD.1		MP.5, MP.3, and MP.6.	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

Part 3a.

Sub Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), *engaging particularly in the Modeling practice*, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Part 3a consists of two (2) tasks, each worth three points, totaling 6 points in all.

- There is one evidence statement for Part 3a, given in Table 3-PBA(3a) below.
- Both tasks should assess the following evidence statement with sufficient variety.
- When utilizing an Evidence Statement from PBA(1a) or PBA(1b) please note the "clarifications, limits and emphases" that accompanies the Evidence Statement.

Table 3-PBA(3a).[27,28] Evidence Statement for Grade 3 PBA Part 3a

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
4	3.D.1	Solve multi-step contextual word problems with degree of difficulty appropriate to Grade 3, requiring application of knowledge and skills articulated in Tables 3-PBA(1a) and 3-PBA(1b)	Tasks may have scaffolding if necessary in order to yield a degree of difficulty appropriate to Grade 3.	**MP.4**.	-

These tasks may involve related practices, particularly: making sense of problems and persevering to solve them (MP.1); reasoning abstractly and quantitatively (MP.2); using appropriate tools strategically (MP.5); and looking for and making use of structure (MP.7).

[27] This table need not be considered complete or final. For context see Appendix D, "Sub-Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application," particularly "Evidence Statements for Sub-Claim D," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim D will include possible candidates for evidence statements for sub-claim D.

[28] See Table F.f.4 in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf.

Part 3b.

Sub Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), *engaging particularly in the Modeling practice*, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Part 3b consists of one (1) task worth six points.

There is one evidence statement for Part 3b, given in Table 3-PBA(3b) below.

Table 3-PBA(3b).[30,31] Evidence Statement for Grade 3 PBA Part 3b

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
4	3.D.2	Solve multi-step contextual problems with degree of difficulty appropriate to Grade 3, requiring application of knowledge and skills articulated in 2.OA.A, 2.OA.B, 2.NBT, and/or 2.MD.B.	Tasks may have scaffolding if necessary in order to yield a degree of difficulty appropriate to Grade 3. These tasks may involve related practices, particularly: making sense of problems and persevering to solve them (MP.1); reasoning abstractly and quantitatively (MP.2); using appropriate tools strategically (MP.5); and looking for and making use of structure (MP.7).	MP.4.	-

[30] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.

[31] See Table F.f.4 in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf.

Grade 3—EOY

This blueprint is the evolution of Table D.4 in the ITN,[32] *providing more specificity as well as a further iteration of draft design elements covered in the ITN.*

Part 1. Part 1 consists of thirty-one (31) tasks, each worth 1 point (these are tasks of Type I.1

Table 3-EOY(1) lists evidence statements for Part 1a. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.

Table 3-EOY(1). Evidence Statements for Grade 3 EOY Part 1

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	1	3.OA.3-1	Use multiplication within 100 (both factors less than or equal to 10) to solve word problems in situations involving equal groups, arrays, or area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All products come from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) 50% of tasks involve multiplying to find the total number (equal groups, arrays); 50% involve multiplying to find the area. iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.
2	-	1	3.OA.3-3	Use division within 100 (quotients related to products having both factors less than or equal to 10) to solve word problems in situations involving equal groups, arrays, or area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All quotients are related to products from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) A third of tasks involve dividing to find the number in each equal group or in each equal row/column of an array; a third of tasks involve dividing to find the number of equal groups or the number of equal rows/columns of an array; a third of tasks involve dividing an area by a side length to find an unknown side length. iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.
1	1/2	1	3.OA.3-2	Use multiplication within 100 (both factors less than or equal to 10) to solve word problems in situations involving measurement quantities other than area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All products come from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) Tasks involve multiplying to find a total measure (other than area). iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.
	1/2	1	3.OA.3-4	Use division within 100 (quotients related to products having both factors less than or equal to 10) to solve word problems in situations involving measurement quantities other than area, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	i) All quotients are related to products from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$). ii) 50% of tasks involve finding the number of equal pieces; 50% involve finding the measure of each piece. iii) For more information see CCSS Table 2, p. 89 and the OA Progression.	MP.1 and MP.4	Represent and solve problems involving multiplication and division.
1	1/2	1	3.OA.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*	i) Tasks involve interpreting products in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, p. 89.) ii) Tasks do not require students to interpret products in terms of repeated addition, skip-counting, or jumps on the number line. iii) The italicized example refers to describing a context. But describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a total can be expressed as a specified product.	MP.4 and MP.2[34].	Represent and solve problems involving multiplication and division.
	1/2	1	3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a*	i) Tasks involve interpreting quotients in terms of equal groups, arrays, area, and/or measurement quantities. (See CCSSM, Table 2, p. 89.) ii) Tasks do not require students to interpret quotients in terms of repeated subtraction, skip-counting, or jumps on the number line.	MP.4 and MP.2.	Represent and solve problems involving multiplication and division.

[32] See Table D.3, "Grade 3, Performance Based Assessment Blueprint – Preliminary Draft – Operational portion (equating and field testing items not yet included)," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.

[34] The account of MP.2 in the ITN is very incomplete. It needs a new domain opened up, namely that which involves the mapping of abstract symbols such as "x" or "3/8" or "-11+8" or "2" onto more-or-less-real quantities such as "the unknown side" (late elementary) or "this much liquid" (elementary) or "net profit" (late middle) or "this many apples" (primary).

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
				number of groups can be expressed as 56 ÷ 8.	iii) The italicized example refers to describing a context. But describing a context is not the only way to meet the standard. For example, another way to meet the standard would be to identify contexts in which a number of objects can be expressed as a specified quotient. iv) 50% of tasks require interpreting quotients as a number of objects in each share. 50% of tasks require interpreting quotients as a number of equal shares.		
3	-	3	3.OA.7[35]	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	i) Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here). iii) Tasks require fluent (fast and accurate) finding of products and related quotients. For example, each 1-point task might require four or more computations, two or more multiplication and two or more division. iv) 75% of tasks are from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$).	-	Multiply and divide within 100.
2	-	1	3.OA.8-1	Solve two-step word problems using the four operations.	i) Only the answer is required (methods, representations, etc. are not assessed here). ii) For the aspects of 3.OA.8 described in note *i* see Grade 3 PBA part 2. iii) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, p. 88; CCSSM, Table 2, p. 89; and the Progression document for Operations and Algebraic Thinking[36]).	MP.1 and MP.4	Solve problems involving the four operations, and identify and explain patterns in arithmetic
1	-	1	3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	i) Fractions are not limited to values between 0 and 1. ii) Fractions equal whole numbers in 20% of these tasks. iii) Tasks have "thin context" or no context. . iv) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote CCSSM, p 24)	MP.5.[37]	Develop understanding of fractions as numbers.
1	-	1	3.NF.3a-1	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size.	i) Tasks do not involve the number line. ii) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) iii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see Grade 3 PBA Part 2.	MP.5	Develop understanding of fractions as numbers.
1	-	1	3.NF.3a-2	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same point on a number line.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see Grade 3 PBA Part 2.	MP.5	Develop understanding of fractions as numbers.
1	-	1	3.NF.3b-1	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3).	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see Grade 3 PBA Part 2.	MP.7	Develop understanding of fractions as numbers.
1	-	1	3.NF.3c	Explain equivalence of fractions in special cases and compare fractions by reasoning about their size. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram*.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p 24) ii) The explanation aspect of 3.NF.3 is not assessed here; for that aspect of the standard see Grade 3 PBA Part 2.	MP.3 and MP.7 MP.5	Develop understanding of fractions as numbers.

[35] Fluency expectation (Sub-Claim E)
[36] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[37] Omission of the number line as a tool is a major oversight in MCF, ITN, and math design documents. (Note that the coordinate *plane* is mentioned, which is a pair of perpendicular number lines; but a single number line is all students have in earlier grades.)

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	-	1	3.NF.3d	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	i) Tasks are limited to fractions with denominators 2, 3, 4, 6, and 8. (See footnote, CCSSM p. 24) ii) Justifying is not assessed here; for this aspect of standard 3.NF.3d, see Grade 3 PBA Part 2. iii) Prompts do not provide visual fraction models; students may at their discretion draw visual fraction models as a strategy.	MP.7	Develop understanding of fractions as numbers.
1	-	1	3.MD.1-2	Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	i) Only the answer is required (methods, representations, etc. are not assessed here).	MP.1, MP.4, and MP.2 MP.5	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	-	1	3.MD.2-1	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).6	-	-	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	-	1	3.MD.2-2	Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	i) Only the answer is required (methods, representations, etc. are not assessed here).	MP.1, MP.4 and MP.2 MP.5	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	-	1	3.MD.7b-1	Relate area to the operations of multiplication and addition. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems.	i) Products are limited to the 10x10 multiplication table.	MP.4. MP.5	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
1	1/3	1	3.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	-	MP.7	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
	1/3	1	3.MD.7d	Relate area to the operations of multiplication and addition. d. Recognize area as additive. Find areas of rectilinear[38] figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	-	MP.7.	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
	1/3	1	3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	-	MP.7	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

[38] The glossary definition of "rectilinear" in CCSSM is incorrect. A rectilinear figure is a polygon all angles of which measure 90 degrees or 270 degrees.

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
							Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
	1/3	1	3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*	i) Tasks do not have a context. ii) Only the answer is required (methods, representations, etc. are not assessed here). iii) All products and related quotients are from the harder three quadrants of the times table ($a \times b$ where $a > 5$ and/or $b > 5$).	-	Represent and solve problems involving multiplication and division.
	1/3	1	3.NF.1	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.	i) Tasks do not involve the number line.	MP.2.	Develop understanding of fractions as numbers.
	1/3	1	3.MD.1-1	Tell and write time to the nearest minute and measure time intervals in minutes.	-	-	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
1	-	1	2.MD.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	i). Tasks combine easy and intermediate situation types as shown in the *Progression* for Operations and Algebraic Thinking[40] (the dark and intermediate shaded types in Table 2, p. 9).	MP.2 and MP.4	Relate addition and subtraction to length
1	-	1	2.OA.1-1	Use addition and subtraction within 100 to solve one- step word problems involving situations of adding to with start unknown, taking from with start unknown, comparing with the larger quantity unknown and harder "fewer"-type phrasing, and comparing with the smaller quantity unknown and harder "more"-type phrasing, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (footnote: See Glossary, Table 1)	i) The situation types are those that are unshaded in Table 2, p. 9 of the *Progression* for Operations and Algebraic Thinking.[41]	MP.1 and MP.4	Represent and solve problems involving addition and subtraction
1	-	1	2.NBT.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	i) Tasks do not have a context.	MP.7.	Understand place value.
1	-	3	2.NBT.5[42]	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	i) Tasks do not have a context.	MP.7.	Use place value understanding and properties of operations to

[40] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[41] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf
[42] Fluency expectation (Sub-Claim E)

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
							add and subtract.
1	-	1	2.NBT.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.	i) Tasks do not have a context.	MP.7.	Use place value understanding and properties of operations to add and subtract.
1	-	1	2.MD.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	-	MP.6 MP.5	Measure and estimate lengths in standard units.
1	-	1	2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line.	-	MP.5.	Relate addition and subtraction to length.
1	-	1	2.G.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	-	-	Reason with shapes and their attributes.

Part 2. Part 2 consists of thirteen (13) tasks, each worth 1 point (these are tasks of Type I.1[43]).

Table 3-EOY(2) lists evidence statements for Part 2. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table.
- The number of tasks in each content domain is specified by the Form Construction Tables.

Table 3-EOY(2). Evidence Statements for Grade 3 EOY Part 2

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	-	3, 5[44]	3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	i) Tasks have no context.	-	Use place value understanding and properties of operations to perform multi-digit arithmetic.
2	-	5	3.NBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.	i) Tasks have no context.	MP.7.	Use place value understanding and properties of operations to perform multi-digit arithmetic.
1	-	5	3.MD.3-1	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	i) Tasks involve no more than 10 items in 2-5 categories. ii) Tasks do not require students to create the entire graph, but might ask students to complete a graph or otherwise demonstrate knowledge of its creation.	MP.2.	Represent and interpret data.
1	-	5	3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	-	MP.2 and MP.5.	Represent and interpret data.
2	-	5	3.MD.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	-	MP.4 MP.2 and MP.5	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
3	-	5	3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	-	-	Reason with shapes and their attributes.
2	-	5	3.G.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*	-	-	Reason with shapes and their attributes.

[43] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.

[44] In general, Sub-Claim E falls within Sub-Claim A, that is, fluency work required by the standards falls within the major work of the grade. However, in grade 3, the cluster containing the fluency standards is designated Additional work.

Part 3. Part 3 consists of five (5) tasks worth 2 points each, totaling 10 points in all.

Table 3-EOY(3) (see below) lists Evidence Statements for Part 3.

- Each task on Part 3 generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The distribution of tasks across Content Areas is specified by the Form Construction Tables.
- Evidence Statements within a given Content Domain are equally likely to be assessed. All integrative Evidence Statements that cut across two or more Content Domains are equally likely to be assessed.
- When multiple standards are listed within the Content Scope, the contractor must use the first standard and 1 or more of the subsequent standards listed while keeping a balanced pool.

Table 3-EOY(3). Evidence Statements for Grade 3 EOY Part 3

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[46]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	3.NF.A.Int.1	In a contextual situation involving a whole number and two fractions not equal to a whole number, represent all three numbers on a number line diagram, then choose the fraction closest in value to the whole number.	i) Whole numbers are limited to 0, 1, 2, 3, 4, 5. Fraction denominators are limited to 2, 3, 4.	MP.2, MP.4 and MP.5.	Develop understanding of fractions as numbers.
1	3.MD.2-3	Measure or estimate liquid volumes or masses of objects using standard units of grams (g), kilograms (kg), and liters (l),6 then use the estimated value(s) to estimate the answer to a one-step word problem by using addition, subtraction, multiplication, or division. See 3.MD.2	-	MP.6 and, in the case of measuring, MP.5.	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
5	3.MD.3-3	Solve a put-together problem using information presented in a scaled bar graph, then use the result to answer a "how many more" or "how many less" problem using information presented in the scaled bar graph. See 3.MD.3	i) Be careful that tasks do not require computations beyond the grade 3 expectations. See 4.NBT for computations expected only at the next grade.	MP.4	Represent and interpret data.
1, 5	3.Int.1	Given a two-step problem situation with the four operations, round the values in the problem, then use the rounded values to produce an approximate solution. See 3.OA.8, 3.NBT.1, 3.NBT.2, 3.NBT.3	i) Be careful that tasks do not require computations beyond the grade 3 expectations. See 4.NBT for computations expected only at the next grade.	MP.4 and MP.6.	3.OA.D, 3.NBT.A
1, 5	3.Int.2	Solve two-step word problems using the four operations requiring a substantial addition, subtraction, or multiplication step, drawing on knowledge and skills articulated in 3.NBT. See 3.OA.8, 3.NBT.2, and 3.NBT.3	i) For the aspects of 3.OA.8 described in note *i* see Grade 3 PBA part 2.iii) Addition, subtraction, multiplication and division situations in these problems may involve any of the basic situation types with unknowns in various positions (see CCSSM, Table 1, p. 88; CCSSM, Table 2, p. 89; and the Progression document for Operations and Algebraic Thinking[47]).	MP.1 and MP.4	3.OA.D, 3.NBT.A
1, 5	3.Int.3	Solve real world and mathematical problems involving perimeters of polygons requiring a substantial addition, subtraction, or multiplication step, drawing on knowledge and skills articulated in 3.NBT. See 3.MD.8, 3.NBT.2, and 3.NBT.3		MP.1 and, if the problem has a real world context, MP.4	3.MD.D, 3.NBT.A

[46] See Appendix F (Revised), "Illustrations of Innovative Task Characteristics," particularly section F(A)(2), "Practice-Forward Tasks," and especially Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," particularly section IV, "Operationalizing Assessment of the Mathematical Practices," and section V, "Practice-forward tasks," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf

[47] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[46]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1, 5	3.Int.4	Use information presented in a scaled bar graph to solve a two-step "how many more" or "how many less" problem requiring a substantial addition, subtraction, or multiplication step, drawing on knowledge and skills articulated in 3.NBT. See 3.MD.3, 3.NBT.2, and 3.NBT.3		MP.1 and MP.4 and MP.2.	3.MD.B, 3.NBT.A
1, 5	3.Int.5	Add, subtract, or multiply to solve a one-step word problem involving masses or volumes that are given in the same units, where a substantial addition, subtraction, or multiplication step is required drawing on knowledge and skills articulated in 3.NBT, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.7. See 3.MD.2, 3.NBT.2, and 3.NBT.3		MP.1 and MP.4 and MP.2.	3.MD.A, 3.NBT.A

Grade 3 Summary

Number of **Tasks** by Type and Component

Type	PBA(1)	PBA(2)	PBA(3)	EOY	Total
I.1 Single-prompt tasks worth 1 point	8			44	52
I.2 Single or two prompt tasks worth 2 points	2			5	7
II / 3 points		2			2
II / 4 points		2			2
III / 3 points			2		2
III / 6 points			1		1

57% of pts

Mean points per task (MPPT):[48]

Component	Points	Tasks	MPPT
PBA(1a)	8	8	1.00
PBA(1b)	4	2	2.00
PBA(2)	14	4	3.50
PBA(3)	12	3	4.00
EOY(1)	31	31	1.00
EOY(2)	13	13	1.00
EOY(3)	10	5	2.00
Overall	**92**	**66**	**1.39**

Number of points by Sub-Claim (disjoint categories)

Claim Code	Sub-Claim	Gr. N	Gr. N-1	Total
1	A but not C or E	32.5	10.0	42.5
2	A and C	14.0		14.0
3	A and E	5.0	2.0	7.0
4	D	6.0	6	12.0
5	B	16.5		16.5
	Total	**74.0**	**18.0**	**92.0**

Approximate Points by Grade, Cluster and Domain

Does not include Sub-Claim D Modeling/application, or previous grade. Italicized numbers are the sum of points located to the left and below. Some entries are approximate; roundoff errors may lead to apparent inconsistencies. True total is shown in parentheses.

Grade 3	6			*67 (66)*	
3.OA	0		*17*		
3.OA.A	0	*8*			*8*
3OA.x	8				
3.OA.B	0	*3*			*3*
3.OA.x	3				
3.OA.C	0	*4*			*4*
3.OA.x	4				
3.OA.D	0	*7*			*7*
3.OA.x	7				
3.NBT	0		*4*		
3.NBT.A	0	*4*			*8*
3.NBT.x	4				
3.NF	0		*15*		
3.NF.A	1	*15*			*15*
3.NF.x	14				
3.MD	0		*20*		
3.MD.A	0	*6*			*6*
3.MD.x	6				
3.MD.B	0	*4*			*4*
3.MD.x	4				
3.MD.C	0	*8*			*8*
3.MD.x	8				
3.MD.D	0	*2*			*2*
3.MD.x	2				
3.G	0		*5*		
3.G.A	0	*5*			*5*
3.G.x	5				

Mathematical Practices

- Coverage constraint: Each MP is represented by at least one practice-forward task:
- Content integration constraint (in each content domain, there is at least one task associated with one or more MPs):
- Practice weight constraint: Percent of points from tasks that are practice-forward or practice-related: ≥ XX%

[48] Mean points per task (MPPT) is tabulated as a rough measure of "surface richness" of the test. Note for comparison that MCAS grade 8 has MPPT = 54/42 = 1.28. A related heuristic is the fraction of total points arising from 1-point tasks (Type I.1). A target for this is 50%-60%, with high school at the higher end of the range.